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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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49455	7590	11/01/2007		
STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005			EXAMINER LAIOS, MARIA J	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 11/01/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/748,197	Applicant(s) KIM ET AL.	
	Examiner Maria J. Laios	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 2 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 12-28 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Claims 1-5, 8, 10, 14, 15 and 18-20 have been amended.

### ***Claim Objections***

1. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 10 is dependent on claim 9, which has been canceled.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 7, 8, 13-20, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita et al. (U.S. Patent Number 6,432,578 B1).

Sugita et al. disclose a spirally wound seal cell (abstract). The cell includes a first electrode plate (20) having a first electrode current collector with a first electrode tab (23). The first electrode has an active material layer coated on at least one surface (22 in Figure 9). Sugita et al. disclose a second electrode plate (30) having a second electrode current collector with a second electrode tab (33). The second electrode has an active material layer (32 in Figure 10). The spirally wound electrode boy is formed by rolling

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the first electrode plate (20) and the second electrode plate (30) with a separator (41) in between (Figure 11). The first electrode tab (23) is incorporated into the electrode current collector in an area of the first electrode plate (20) where the corresponding electrode active material layer (22) is not coated (column 1, lines 55-54, as applied to claims 1, 14, 15, 16, and 17, the tri-functional electrode unit is the current collector, the tab, and the active material as defined by applicant).

Sugita et al. disclose that the spirally wound cell is located in an outer can (column 1, line 49). The can has a sealing lid (50), which is connected to an upper portion of the can. The sealing lid has a cap plate (51) and an electrode terminal (54) formed in the cap plate and having an insulating gasket (52) at an outer surface (Figure 12, as applied to claim 14).

Sugita et al. disclose forming a first electrode plate (20) with a first electrode tab (23) at a first electrode current collector that is integrally connected to the first electrode current collector at a winding start portion (column 2, lines 31-37). Sugita et al. disclose forming a second electrode plate (30) having a second electrode current collector with a second electrode tab (33). A separator (41) is prepared and interposed between the first (20) and second (30) electrode plates. The cell configuration is spirally wound as seen in Figure 11 (as applied to claim 8).

Sugita et al. disclose that the first electrode tab (23) is formed by folding a cut portion of the electrode current collector (Figures 14A and B and column 3, lines 56-59). The start portion or completion portion is an arbitrary position depending on what is designated the start and finish of the wind. The completed battery, after winding is

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finished, could have the start portion or the completion portion at two different positions. Therefore, Sugita et al. disclose that the first electrode tab (23) is at either a start or completion portion of the wind (as applied to claims 2,3,14,18, and 19).

Sugita et al. disclose that an electrode current collector tab (240 in Figure 14b) is formed, which inherently means that the tab extends above the top of the battery roll (as applied to claim 4).

Sugita et al. disclose that the first or second folded electrode tab partially overlaps with the electrode current collector having the opposite polarity in Figure 11 (as applied to claims 7, 13, and 23). By winding the battery in a jelly-roll style, the electrode current collector of opposite polarity would inherently overlap the first or second electrode tab.

Sugita et al. fails to explicitly disclose the cut portion begins at the lower edge of the electrode to the opposite side of the electrode.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to cut from the edge of the electrode and folding the cut portion toward the upper edge in order to form the tab because Sugita discloses a cut portion in the center of the electrode but it would be easier to manufacture the tab if the cut was made at the lower edge and then folded upward.

By including all of the structural elements of claims 1 and 2, the apparatus is capable of performing the functions recited in claims 24-26. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997) “[A]pparatus claims cover what a device is, not what a

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device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (*MPEP 2114*).

4. Claims 5, 6, 12, 21, 22, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita et al. (U.S. Patent Number 6,432,578 B1) as applied to claims 1,8, and 20 above, and further in view of Narukawa et al. (U.S. Patent Number 5,508,122).

The disclosure of Sugita et al. has been discussed above and is incorporated herein.

Sugita et al. do not teach the use of an insulating tape adhered to either surface of the first or second electrode tab.

Narukawa et al. teach that the lead connecting regions, or electrode tabs, are covered with insulating tape (column 1, lines 14-16, as applied to claims 5, 12, and 21).

Narukawa et al. teach that each electrode tab positioned at the outmost has insulating tape on the side toward the center of the spiral electrode, or between the inner and outer surfaces of the first and second electrode tab (column 1, lines 56-59, as applied to claims 6, 22, 27, and 28).

By including all of the structural elements of claim 4, the apparatus is capable of performing the functions recited in claims 27 and 28. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be

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distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) “[A]pparatus claims cover what a device is, not what a device does.” Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (*MPEP 2114*).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the insulating tape of Narukawa et al. in the battery of Sugita et al. The insulative tape is used to prevent an internal short circuit (column 1, lines 15-16). Having the insulating tape positioned between the inner and outer surface of the first and second electrode tab, would assure that each lead will not touch another electrode (column 1, lines 59-60).

### *Response to Arguments*

5. Applicant's arguments filed August 2, 2007 have been fully considered but they are not persuasive.

Applicant argues that the incision of the electrode does not begin at the edge of the electrode and extends more than half of the width of the electrode body. The examiner agree to this fact however Sugita teaches that a cut portion of the electrode is folded to form a tab which is the same concept of the applicant and one of ordinary skill would be able to cut at the one edge of

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the electrode and fold this portion upward to exceed the upper edge of the electrode thereby making it more than half in order to easily manufacture the tab as discussed above.

Applicant argues that Sugita does not teach a tri-functional electrode. The Examiner disagrees because a tri-functional electrode as defined by the applicant is the current collector, the tab, and the active material on the current collector, which is disclosed by Sugita.

### *Conclusion*

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria J. Laios whose telephone number is 571-272-9808. The examiner can normally be reached on Monday - Thursday 9:30 - 6:30.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJL

*Alexa Neckel*  
Supervisory Patent Examiner